J. Chem. Soc., Faraday Trans. 2, 1984, **80**, i–ii

AUTHOR INDEX 1984

Abuain, T., 641
Ahmed, M. S., 1047
Aicart, E., 437
Al-Kadier, M. A., 669
Allen, G. C., 991
Amorim da Costa, A. M., 607
Ancian, B., 1067
Anitoff, O., 909
Atherton, N. M., 499
Attwood, D., 243
Augosti, A. T., 141
Barnes, A. J., 455, 465
Barrer, R. M., 629
Bartocci, G., 1093
Bator, G., 403
Battacharyya, S. N., 1107
Beech, T. R., 455
Behrens-Griesenbach, A., 579
Ben-Ephraim, A., 681
Bhattacharyya, S., 1405
Biemond, J., 1039
Bird, S., 851
Blasse, G., 1055
Blondeel, G., 867
Boddington, T., 973, 1155
Böhm, H-J., 887
Bonchev, D., 695
Boodaghians, R. B., 817
Borrell, P., 817
Borrell, P. M., 817
Botrel, A., 1235
Bowmaker, G. A., 1125
Boyd, P. D. W., 1125
Breddels, P. A., 1055
Brinn, I. M., 763
Brunning, J., 100
Burrows, J. P., 957
Canagaratna, S. G., 261
Canosa-Mas, C. E., 561
Cardew, P. T., 659
Catherall, C. L. R., 823, 837
Catterall, R., 1181, 1539
Cavell, E. A. S., 447
Cesteros, L. C., 1215
Chao, J., 1047
Cheng Cong Xiang, 713, 1465, 1619
Chew, W. C., 535
Chonishvili, G. M., 355
Christensen, P. A., 1451
Clague, I. G., 1485
Clark, R. H., 97
Claxton, T. A., 851
Clemitshaw, K. C., 1633
Clyne, M. A. A., 877, 1001
Cox, R. A., 1633
Crossley, J., 1047
Cundall, R. B., 823, 837, 1181, 1201
Dance, D. F., 641
Das, D. K., 1107
Das, P. K., 783
Davey, R. J., 659
Day, P., 85
Desando, M. A., 747
Deschaux, M., 1569
Dewar, M. J. S., 227
Diaz Peña, M., 437
Dickinson, E., 1485
Dissado, L. A., 291
Dixon, R. N., 1489
Doggett, G., 1413
Dogonadze, R. R., 355
Dorfmüller, T., 283
Drowart, J., 1171
Duddell, D. A., 1181, 1201
Duggan, J. J., 729, 739, 795, 809
Edwards, P. P., 1539
Eriksson, J. C., 489
Farmilo, A., 1117
Fassler, D., 1077
Feng, C-G., 601, 973, 1155
Fernández-Alonso, J. I., 1269
Fletcher, I. W., 985
Flint, C. D., 219
Folcher, G., 909
Folman, M., 681
Frey, H. M., 561
Fytas, G., 283
Gade, R., 1077
Gallez, D., 517
Garcia de la Vega, J. M., 1269
Ganguly, S., 1395
Geurds, H. G. W., 1039
Gibbons, R. M., 1019
Gibson, J., 243
Gijzman, O. L. J., 771
Gingerich, K. A., 395
Glazunov, V. P., 899
Goodwin, E. J., 51, 1669
Gormally, J., 243
Gray, P., 601, 1155
Grice, R., 729, 739, 795, 809
Grottel, M., 553
Gupta, M., 1405
Guy, S. C., 1539
Habti, A., 67
Hall, D. G., 243
Harding, D. R., 615
Hargittai, I., 1273
Harriman, A., 191, 867, 1451
Healy, E. F., 227
Healy, T. W., 1299, 1643
Heyes, D. M., 1363
Hikida, T., 861
Hill, R. M., 291
Hinch, E. J., 535
Hiratsuka, H., 861
Hirayama, S., 941
Homer, J., 1, 375
Hong Yuan Zheng, 1253
Hoste, R., 477
Hossain, M. S., 1047
Humphreys, C. A., 499
Husain, D., 97, 321, 615, 647, 713, 1465, 1619
Huxley, P., 1349
Iida, M., 1599
Izawa, Y., 507
Jacques, P., 1235
Jenkin, M. E., 1633
Jenkins, H. D. B., 1167
Jones, G. R., 1181, 1201
Jongert, G., 771
Kaden, U., 1077
Kalninsh, K. K., 1529
Kalyanaraman, B., 267
Kanesaka, I., 507
Kapovits, I., 1273
Kashem, M. A., 747
Katime, I., 1215
Kawai, K., 507
Kawakami, H., 205, 921
Keravis, D., 67
Kispert, L. D., 267
Kjellander, R., 1323
Knowles, D. B., 1349
Kołodziej, H. A., 403
Kucsman, A., 1273
Kumar, C. V., 783
Kuzniarski, J. N. S., 465
Labohm, F., 771
Lang, P. F., 1089
Laughton, A. P., 1019
Lazzeretti, P., 235
le Beuze, A., 1235
Le Roux, D., 909
Legon, A. C., 51, 1669
Levitz, P., 67
Lewis, R. A., 991
Lilge, D., 283
Ling Qin, 783
Livett, M. K., 1281
Livorness, J., 425

Ljunggren, S., 489
Luck, W. A. P., 579, 1253
Maciejewski, A., 411
MacRobert, A. J., 877
Maheswaran, M., 261
Maier, J. P., 43
Malarski, Z., 403
Marcantonatos, M. M., 1569
Marconi, G., 1093
Marsagishvili, T. A., 355
Martin, L., 763
Masetti, F., 1093
Matsuo, M., 1599
Mazzucato, U., 1093
McClelland, B. J., 345
McDonald, I. R., 887
McKenna, D., 589
McKiernan, J. G. R., 1507
Mekenyan, O., 695
Mialocq, J-C., 909
Mielke, Z., 455, 465
Miljanič, S. S., 275
Milledge, J., 1145
Minh Tho Nguyen, 1225
Misev, L., 43
Mitchell, D. J., 115
Monti, S., 1513
Mori, Y., 861
Morris, D. F. C., 1167
Murray, D., 1181, 1201
Murrell, J. N., 1349
Murrells, T. P., 877
Nabiullin, A. A., 899
Natarajan, N., 243
Neta, P., 1451
Ninham, B. W., 115
O'Brien, R. W., 1299
Odinokov, S. E., 899
Ohshima, H., 1299, 1643
Orlandi, G., 1513
Pailthorpe, B. A., 115
Pajak, Z., 553
Palmer, T. F., 823, 837
Panayiotou, C. G., 1435
Parthasarathy, R., 1395
Peel, J. B., 1281
Percival, C. C., 1
Pereira, A. M. G., 763
Pilbrow, J. R., 425
Plane, J. M. C., 713, 1465, 1619
Porter, G., 191, 867, 1451
Prévost, M., 517
Prassides, K., 85
Quinn, C. M., 1507
Ramakrishnan, E. S., 395
Rao, C. N. R., 1395
Rao, K. J., 1395
Redmond, D. B., 1507
Regtuit, H. E., 1039
Rey, M. L., 437
Rickayzen, G., 141
Rood, A. P., 1145
Rossi, E., 235
Rubinstein, I., 335
Ruddick, A. J., 659
Ruelle, P., 1225
Russel, W. B., 31
Sabir-Ali, M. E., 1089
Samskog, P-O., 267
Sawatari, C., 1599
Schifino, J., 321, 647
Schmidt, P. P., 157, 181
Schrems, O., 579
Schultz, G., 1273
Scott, S. K., 601, 973, 1555
Sen, P. N., 535
Sherwood, J. D., 535
Shim, I., 395
Shimono, Y., 941
Siddiqui, M. A., 747
Simons, J. P., 1489
Sinclair, G. R., 425
Smith, A. J., 1489
Smith, B. C., 1089
Smith, T. D., 425
Smoes, S., 1171
Snook, I., 383
Sorrensen, R. J., 1125
Sorriso, S., 403, 933
Srivastava, R. M., 763
Steif, L. J., 877
Stewart, J. J. P., 227
Strazielle, C., 1215
Strub, H., 1235
Szymanski, M., 411
Tafalla, D., 1269
Tanner, P. A., 219, 365
Tardajos, G., 437
Tiang Hong Gan, 1281
Tiffon, B., 1067
Tolon, C., 669
Townsend, R. P., 629
Tucker, P. M., 991
Urch, D. S., 669
Valdivieso Cedeño, E. R., 375
Van Dael, W., 477
van Damme, H., 67
van der Meerendonk, M. G. J. A., 1039
van Megen, W., 383
van Zandvoort, M. M. J., 771
Viulleumier, J-J., 1569
Vliegenthart, J. A., 771
Walker, I. C., 641
Walker, S., 747, 1047
Wallington, T. J., 957
Walsh, R., 561
Watts, J. D., 1349
Wayne, R. P., 957
Webster, B., 589
White, L. R., 1299, 1643
Whitehead, J. C., 985
Wilkinson, F., 1117
Wilowska, A., 191, 867
Wojtczak, J., 411
Wyn-Jones, E., 243
Yamazaki, T., 861
Yonezawa, T., 205
Yoshida, S., 205, 921
Zanasi, R., 235
Zerbetto, F., 1513

SUBJECT INDEX 1984

Absorption Spectra
Absorption Spectra of Molecules Adsorbed on Light-scattering Media. Part 1.—Absorption Cross-section of Adsorbed Molecules, 1077
Acidity
A Quantum-chemical Approach to the Generation of Solid Acidity in Composite Metal Oxides, 205
Activity Coefficients
Ion–Solvent Interactions and the Activity Coefficients of Real Electrolyte Solutions, 115
Adamantane
Multinuclear Magnetic Relaxation Determination of Nuclear Quadrupole Coupling Constants for Adamantane and Hexamethylenetetramine in Solution, 1067
Adsorption Isotherms
Carbon Monoxide on Ni {111}. Adsorption Isotherms and Intermolecular Interactions, 771
Aggregation
Aggregation by Stacking of a Drug in Aqueous Solution Studied by means of Light Scattering and Ultrasonic Relaxation, 243
Alcohols
Molecular Relaxation and Related Processes in Alcohols. Part 1.—Dielectric Dispersion and Infrared Studies of 3-Methyl-1,5-diphenyl-1,4-pentadiyn-3-ol, 403
Alkali-metal Atoms
Electron Spin Resonance Spectroscopy Study of Solvated Alkali-metal Atoms at X- and Q-Band Frequencies, 1539
Amine
Strongly Hydrogen-bonded Molecular Complexes Studied by Matrix-isolation Vibrational Spectroscopy. Part 2.—Amine–Hydrogen Chloride Complexes, 465
Amino Acids
Photoreduction of Benzophenone by Amino Acids, Aminopolycarboxylic Acids and their Metal Complexes. A Laser Flash-photolysis Study, 1107
Ammonia
Strongly Hydrogen-bonded Molecular Complexes Studied by Matrix-isolation Vibrational Spectroscopy. Part 1.—The Ammonia–Hydrogen Chloride Complex, 455
The Lowest Triplet State in Ammonia and Methylamine Detected by Electron-impact Excitation, 641
Collisional Quenching of Singlet Molecular Oxygen, $O_2(a\ ^1\Delta_g)$ and $O_2(b\ ^1\Sigma_g^+)$, by Ammonia at High Temperatures, 813
Proton Affinity of Gaseous Ammonia, 1167
Aqueous Solutions
Electrical Properties of Aqueous Solutions of Hexyltrimethylammonium Bromide and Decyltrimethylammonium Bromide, 447
Atomic Resonance Absorption Spectroscopy
Collisional Quenching of Electronically Excited Chlorine Atoms, $Cl[3p^5(^2P_{1/2})]$, by Atmospheric Gases Studied by Time-resolved Atomic Resonance Absorption Spectroscopy in the Vacuum Ultraviolet, 97
Atomic-fluorescence Spectroscopy
A Direct Kinetic Study of the Reaction K + OH + He → KOH + He by Time-resolved Molecular Resonance-fluorescence Spectroscopy, OH ($A\ ^2\Sigma^+$–$X\ ^2\Pi$) Coupled with Steady Atomic-fluorescence Spectroscopy, K($5\ ^2P_J$–$4\ ^2S_{1/2}$), 1465
Barium Perchlorate
Temperature Dependence of the Electron Spin Resonance Spectrum of the ClO_3 Radical Trapped in γ-Irradiated Barium Perchlorate, 499
Basicity
Theoretical Approach to the Basicity of Alkaline-earth-metal Oxide Catalysts. Relationship between Basicity and Surface Structure of Magnesium Oxide, 921
BeH
Orbitally Ordered Configuration-interaction Calculations on Small Radicals. NH_2 and BeH, 851
Benzalacetophenone Ketyl Radical
Visible Absorption and Fluorescence Spectra of the Benzalacetophenone Ketyl Radical and its Radical Anion, 861
Benzene
Localized Second-order Electric Properties in Water, Ammonia and Benzene, 235
Raman-band Contour Analysis in the Liquid Systems Nitromethane + Benzene and Nitromethane + Carbon Tetrachloride, 607
Solvent Shifts of the Proton Magnetic Resonance of Hydrogen, Benzene and Mesitylene, 1039
Quenching of Electronically Excited Triplet States by Molecular Iodine in Benzene Solution, 1117
Benzophenone
Photoreduction of Benzophenone by Amino Acids, Aminopolycarboxylic Acids and their Metal Complexes. A Laser Flash-photolysis Study, 1107
Benzoyl Halides
Comparative He I and He II Photoelectron Spectroscopic Studies of the Benzoyl Halides, 1281

Beryllium
The Use of Scaled STO Basis Sets. SCF Calculations on the Ground States of Helium, Beryllium and Neon, 1413
Bis(pentachlorophenyl)oxalate
Chemiluminescence from Reactions of Bis(pentachlorophenyl)oxalate, Hydrogen Peroxide and Fluorescent Compounds. Kinetics and Mechanism, 823
Chemiluminescence from Reactions of Bis(pentachlorophenyl)oxalate, Hydrogen Peroxide and Fluorescent Compounds. Role of the Fluor and Nature of Chemielectronic Process(es), 837
Boron
Comparative SCF Study of the Nature of the Carbon–Phosphorus Bond in Phosphaalkynes, RCD, and of the Boron–Sulphur Bond in Sulphidoborons, RBS, 1225
Bromide
Interactions of Aqueous ^7F and $^5D_1$ Europium(III) Ions with Bromide and Inner-sphere Coordination Exciplex Formation, 1569
Bromoacetylene
Laser Excitation Spectra $\tilde{A}\,^2\Pi_{3/2} \leftarrow \tilde{X}\,^2\Pi_{3/2}$ of the Bromoacetylene and Deuterobromoacetylene Cations in the Gas Phase, 43
Brownian-dynamics Simulation
Brownian-dynamics Simulation of Concentrated Charge-stabilized Dispersions. Self-diffusion, 383
Bulk Viscosity
Thermal Conductivity and Bulk Viscosity of Simple Fluids. A Molecular-dynamics Study, 1363
Carbon Monoxide
Carbon Monoxide on Ni {111}. Adsorption Isotherms and Intermolecular Interactions,77
Carbon Tetrachloride
Raman-band Contour Analysis in the Liquid Systems Nitromethane + Benzene and Nitromethane + Carbon Tetrachloride, 607
Carbon
Comparative SCF Study of the Nature of the Carbon-Phosphorus Bond in Phosphaalkynes, RCD, and of the Boron–Sulphur Bond in Sulphidoborons, RBS, 1225
Catalysts
Theoretical Approach to the Basicity of Alkaline-earth-metal Oxide Catalysts. Relationship between Basicity and Surface Structure of Magnesium Oxide, 921
Charge-transfer Processes
Quantum Theory of Charge-transfer Processes, 355
Chelate
Electron Spin Resonance Study of the Manganese(II) Chelate of Tetrasodium 3,10,17,24-Tetrasulphonatophthalocyanine, 425
Chemical Shifts
Reaction Fields, van der Waals Forces and Related Nuclear Magnetic Resonance Chemical Shifts, 1
Chemiluminescence
Chemiluminescence from Reactions of Bis(pentachlorophenyl)oxalate, Hydrogen Peroxide and Fluorescent Compounds. Kinetics and Mechanism, 823
Chemiluminescence from Reactions of Bis(pentachlorophenyl)oxalate, Hydrogen Peroxide and Fluorescent Compounds. Role of the Fluor and Nature of Chemielectronic Process(es), 837
Chlorine
Collisional Quenching of Electronically Excited Chlorine Atoms, $Cl[3p^5(^2P_{1/2})]$, by Atmospheric Gases Studied by Time-resolved Atomic Resonance Absorption Spectroscopy in the Vacuum Ultraviolet, 97
Kinetics of the Reactions of Atomic Chlorine with H_2S, HS and OCS, 877
Clay Minerals
Ion-exchange Equilibria in Zeolites and Clay Minerals. Different Concentration Scales and Derived Thermodynamic Functions, 629
Clays
Influence of Surface Heterogeneity on the Luminescence Decay of Probe Molecules in Heterogeneous Systems. $Ru(bpy)_3^{2+}$ on Clays, 67
ClO
Kinetics of the Reaction of OH with ClO, 957
ClO_3
Temperature Dependence of the Electron Spin Resonance Spectrum of the ClO_3 Radical Trapped in γ-Irradiated Borium Perchlorate, 499
Coagulating Dispersion
Light Scattering from a Coagulating Dispersion of Random Aggregates, 1485
Collisional Behaviour
Collisional Behaviour of Atomic Silicon in Specific Electronic States, $Si(3\,^3P_J, 3\,^1D_2, 3\,^1S_0)$, with Molecular Fluorine Studied by Time-resolved Atomic Resonance Absorption Spectroscopy, 615
Collisional Quenching
Collisional Quenching of Electronically Excited Chlorine Atoms, $Cl[3p^5(^2P_{1/2})]$, by Atmospheric Gases Studied by Time-resolved Atomic Resonance Absorption Spectroscopy in the Vacuum Ultraviolet, 97
Collisional Quenching of Electronically Excited Strontium Atoms, $Sr(5\,^3P_J)$, Studied by Time-resolved Emission at $\lambda = 689.3$ nm $(5\,^3P_1 \rightarrow 5\,^1S_0 + h\nu)$ following Dye-laser Excitation, 647
Collisional Quenching of Singlet Molecular Oxygen, $O_2(a\,^1\Delta_g)$ and $O_2(b\,^1\Sigma_g^+)$, by Ammonia at High Temperatures, 817

Colloidal Particles
Sedimentation Velocity and Potential in a Dilute Suspension of Charged Spherical Colloidal Particles, 1299
Comparability Graphs
Comparability Graphs and Molecular Properties. A Novel Approach to the Ordering of Isomers, 695
Compressibility Data
Thermodynamics of Methylcyclohexane + Toluene and Methylcyclohexane + Cyclohexane Mixtures from Isothermal Compressibility Data, 437
Conductivity
Anomalous Low-frequency Dispersion. Near Direct Current Conductivity in Disordered Low-dimensional Materials, 291
Configuration-interaction Calculations
Orbitally Ordered Configuration-interaction Calculations on Small Radicals. NH_2 and BeH, 851
Conformational Equilibria
Photoisomerisation Mechanism and Conformational Equilibria of Styrylnaphthalenes. A Study Based on Photophysical Properties and Molecular-orbital Calculations, 1093
Cooperative Motion
Cooperative Motion in Some Simple Hydrocarbons, 1047
Criticality
Thermal Explosion of Dispersed Media. Criticality for Discrete Reactive Particles in a Reactive Matrix, 1555
Cyclohexane
Thermodynamics of Methylcyclohexane + Toluene and Methylcyclohexane + Cyclohexane Mixtures from Isothermal Compressibility Data, 437
Decyltrimethylammonium Bromide
Electrical Properties of Aqueous Solutions of Hexyltrimethylammonium Bromide and Decyltrimethylammonium Bromide, 447
Densities of States
Point-group Regular Representations and the Densities of States in Finite Metal Clusters, 1507
Deuterium Chloride
Kinetic Studies of the Reactions of OH($X\ ^2\Pi$) with Hydrogen Chloride and Deuterium Chloride at Elevated Temperatures by Time-resolved Resonance Fluorescence ($A\ ^2\Sigma^+$–$X\ ^2\Pi$), 713
Deuterobromoacetylene
Laser Excitation Spectra $\tilde{A}\ ^2\Pi_{3/2} \leftarrow \tilde{X}\ ^2\Pi_{3/2}$ of the Bromoacetylene and Deuterobromoacetylene Cations in the Gas Phase, 43
Diatomics-in-molecules
Topography of Potential-energy Surfaces. DIM (Diatomics-in-molecules) Surface for H + Cl_2, 729
Diatomics-in-molecules (*cont.*)
Topography of Potential-energy Surfaces. DIM (Diatomics-in-molecules) Surface for F + HF and Cl + HCl, 739
Dichloroethane, Acetonitrile, Dimethylformamide
Light Scattering from Binary Mixtures of Dichloroethane, Acetonitrile, Dimethylformamide and Ethyl Acetate. Excess Gibbs Functions, 1215
Dichlorotoluenes
Dynamics of the Dielectric Relaxation Process in Some Dichlorotoluenes, 933
Dielectric Dispersion
Molecular Relaxation and Related Processes in Alcohols. Part 1.—Dielectric Dispersion and Infrared Studies of 3-Methyl-1,5-diphenyl-1,4-pentadiyn-3-ol, 403
Dielectric Relaxation
Dynamics of the Dielectric Relaxation Process in Some Dichlorotoluenes, 933
Dielectric Response
Dielectric Response of a Dilute Suspension of Spheres with Thin Double Layers in an Asymmetric Electrolyte, 535
Dielectric Studies
Dielectric Studies of the β_1 and β_2 Processes of Poly(Alkyl Methacrylate) Polymers, 747
Diphenyl Ether
Molecular Orientation in Liquid Diphenyl Ether as Probed by Depolarized Light Scattering, 283
Dispersions
Brownian-dynamics Simulation of Concentrated Charge-stabilized Dispersions. Self-diffusion, 383
Dissociation Dynamics
Rotationally Resolved Photofragment Alignment and Dissociation Dynamics in H_2O and D_2O, 1489
Dissociation Energy
Determination of the Dissociation Energy of Selenium Monoxide by the Mass-spectrometric Knudsen-cell method, 1171
Di-t-butylnitroxy Radical
Aromatic Thioketone Triplets and their Quenching Behaviour towards Oxygen and Di-t-butylnitroxy Radical. A Laser Flash-photolysis Study, 783
D_2O
Rotationally Resolved Photofragment Alignment and Dissociation Dynamics in H_2O and D_2O, 1489
Double Layers
Dielectric Response of a Dilute Suspension of Spheres with Thin Double Layers in an Asymmetric Electrolyte, 535
Drugs
Aggregation by Stacking of a Drug in Aqueous Solution Studied by means of Light Scattering and Ultrasonic Relaxation, 243
Dye-laser Excitation
Kinetic Study of Sr(5^3P_J) by Time-resolved

Dye-laser Excitation (*cont.*)
Emission, $5\,^3P_1 \rightarrow 5\,^1S_0 + h\nu$ ($\lambda = 689.3$ nm), following Dye-laser Excitation, 321
Collisional Quenching of Electronically Excited Strontium Atoms, $Sr(5\,^3P_J)$, Studied by Time-resolved Emission at $\lambda = 689.3$ nm ($5\,^3P_1 \rightarrow 5\,^1S_0 + h\nu$) following Dye-laser Excitation, 647
Electric Polarisabilities
Calculation of Electric Polarisabilities of Simple Molecular Systems, 1405
Electrical Properties
Electrical Properties of Aqueous Solutions of Hexyltrimethylammonium Bromide and Decyltrimethylammonium Bromide, 447
Electrokinetic Phenomena
Electrokinetic Phenomena in a Dilute Suspension of Charged Mercury Drops, 1643
Electrolytes
Ion–Solvent Interactions and the Activity Coefficients of Real Electrolyte Solutions, 115
Pair Correlation Functions from the Linearized Poisson–Boltzmann Equation with Axial Symmetry in Aqueous 1–1 Electrolytes, 507
Dielectric Response of a Dilute Suspension of Spheres with Thin Double Layers in an Asymmetric Electrolyte, 535
Electron Paramagnetic Resonance
Structure of the σ^* Radical Anion in Irradiated Iodoacetamide. An Electron Paramagnetic Resonance and INDO Study, 267
Electron Spin Resonance
Electron Spin Resonance Study of the Manganese(II) Chelate of Tetrasodium 3,10,17,24-Tetrasulphonatophthalocyanine, 425
Temperature Dependence of the Electron Spin Resonance Spectrum of the ClO_3 Radical Trapped in γ-Irradiated Borium Perchlorate, 499
Electron Spin Resonance Spectroscopy Study of Solvated Alkali-metal Atoms at X- and Q-Band Frequencies, 1539
Electron Transfer
Electron-transfer Reactions of a Photosensitized Water-soluble Zinc Porphyrin, 909
Dark Catalytic Electron Transfer in Solid-state Hydrogen-bonded Electron-donor–Electron-acceptor Complexes, 1529
Electron-diffraction Studies
Combined Flash-photolysis and Gas-phase Electron-diffraction Studies of Small Molecules, 1145
Molecular Structure of 2-Nitrobenzenesulphenyl Chloride. An Electron-diffraction Study, 1273
Electron-donor–Electron-acceptor Complexes
Dark Catalytic Electron Transfer in Solid-state Hydrogen-bonded Electron-donor–Electron-acceptor Complexes, 1529
Electron Complexes (*cont.*)
Electron-impact Excitation
The Lowest Triplet State in Ammonia and Methylamine Detected by Electron-impact Excitation, 641
Electrostatic Potential
Electrostatic Potential above the (100) Surface Plane of a Face-centred Cubic Ionic Crystal with a Continuous Three-dimensional Electron Charge Density Distribution, 681
Emission
Kinetic Study of $Sr(5^3P_J)$ by Time-resolved Emission, $5\,^3P_1 \rightarrow 5\,^1S_0 + h\nu$ ($\lambda = 689.3$ nm), following Dye-laser Excitation, 321
Eosin Y
Eosin Y-Macromolecule Complexes. Part 1.—Application of Exciton Theory to the Study of the Arrangement of Eosin Y-Molecules in Polycation-induced Eosin Y Dimers, 1181
Eosin Y-Macromolecule Complexes. Part 2.—Interactions between Eosin Y and Polycations, a Cationic Surfactant and Proteins, 1201
Equation of State
Equation of State for Hard-sphere and Hard-disc Systems, 477
An Equation of State for Polar and Non-polar Substances and Mixtures, 1019
Equilibrium Constant
Equilibrium Constant for Lithium Benzophenone–Lithium Bromide Complex Formation, 345
Ethyl Acetate
Light Scattering from Binary Mixtures of Dichloroethane, Acetonitrile, Dimethylformamide and Ethyl Acetate. Excess Gibbs Functions, 1215
Europium(III)
Interactions of Aqueous ^7F and $^5D_1$ Europium(III) Ions with Bromide and Inner-sphere Coordination Exciplex Formation, 1569
Excess Gibbs Functions
Light Scattering from Binary Mixtures of Dichloroethane, Acetonitrile, Dimethylformamide and Ethyl Acetate. Excess Gibbs Functions, 1215
Exciplex Formation
Interactions of Aqueous ^7F and $^5D_1$ Europium(III) Ions with Bromide and Inner-sphere Coordination Exciplex Formation, 1569
Excited-state Activity
Excited-state Activity of the Bifunctional Molecules 3-(2′-Hydroxyphenyl)-5-methyl-Δ^2-1,2,4-oxadiazoline and 3-(2′-Hydroxyphenyl)-5-methyl-1,2,4-oxadiazole, 763
Exciton Theory
Eosin Y-Macromolecule Complexes. Part 1.—

Exciton Theory (*cont.*)
Application of Exciton Theory to the Study of the Arrangement of Eosin Y-Molecules in Polycation-induced Eosin Y Dimers, 1181
F+I_2
Classical Trajectory Studies of the Reaction F+I_2. Part 2.—Reaction Energy Dependence and the Role of Migration, 985
Films
The Role of Repulsive Hydration Forces on the Stability of Aqueous Black Films. Application to Vesicle Fusion, 517
Flash-photolysis
Combined Flash-photolysis and Gas-phase Electron-diffraction Studies of Small Molecules, 1145
Flash-photolysis Study
Aromatic Thioketone Triplets and their Quenching Behaviour towards Oxygen and Di-t-butylnitroxy Radical. A Laser Flash-photolysis Study, 783
Fluorescence
Temperature and Viscosity Effects on Fluorescence in 9-t-Butylanthracene, 941
Fluorescence Spectra
Visible Absorption and Fluorescence Spectra of the Benzalacetophenone Ketyl Radical and its Radical Anion, 861
Fluorescent Compounds
Chemiluminescence from Reactions of Bis(pentachlorophenyl)oxalate, Hydrogen Peroxide and Fluorescent Compounds. Kinetics and Mechanism, 823
Chemiluminescence from Reactions of Bis(pentachlorophenyl)oxalate, Hydrogen Peroxide and Fluorescent Compounds. Role of the Fluor and Nature of Chemielectronic Process(es), 837
Fluorine
Collisional Behaviour of Atomic Silicon in Specific Electronic States, Si($3\,^3P_J$, $3\,^1D_2$, $3\,^1S_0$), with Molecular Fluorine Studied by Time-resolved Atomic Resonance Absorption Spectroscopy, 615
Forsterite
Photoelectron and X-ray Spectroscopy of Minerals. Part 1.—Electronic Structure of Forsterite (Magnesium Orthosilicate), 669
Glasses
Analysis of Raman Bandwidths and Bandshapes of Glasses through their Glass-transition Temperatures, 1395
Ground-state Diatomic Potentials
Ground-state Diatomic Potentials. Part 2.—Van der Waals Molecules, 1349
Guanidinium
Nuclear Magnetic Resonance Study of Molecular Dynamics in Guanidinium Salts containing Interionic Hydrogen Bonds, 553
Hard-disc Systems
Equation of State for Hard-sphere and Hard-disc Systems, 477
Hard-sphere
Equation of State for Hard-sphere and Hard-disc Systems, 477
Hartree–Fock Calculations
Electronic Structure of CH_3OH^+. Restricted Hartree–Fock Calculations of the First Two States, 1269
HCN
Geometry of a Weakly Bound Complex (H_2S, HCN) Determined from an Investigation of its Rotational Spectrum, 1669
Helium
The Use of Scaled STO Basis Sets. SCF Calculations on the Ground States of Helium, Beryllium and Neon, 1413
Heterogeneous Systems
Influence of Surface Heterogeneity on the Luminescence Decay of Probe Molecules in Heterogeneous Systems. $Ru(bpy)_3^{2+}$ on Clays, 67
Hexachloroantimonate
Temperature Variation of the Intervalence Absorption Band of Hexachloro-antimonate(III,V) Ions in a Crystal Lattice, 85
Hexamethylenetetramine
Multinuclear Magnetic Relaxation Determination of Nuclear Quadrupole Coupling Constants for Adamantane and Hexamethylenetetramine in Solution, 1067
Hexyltrimethylammonium Bromide
Electrical Properties of Aqueous Solutions of Hexyltrimethylammonium Bromide and Decyltrimethylammonium Bromide, 447
H_2O
Rotationally Resolved Photofragment Alignment and Dissociation Dynamics in H_2O and D_2O, 1489
HS
Kinetics of the Reactions of Atomic Chlorine with H_2S, HS and OCS, 877
H_2S
Kinetics of the Reactions of Atomic Chlorine with H_2S, HS and OCS, 877
Geometry of a Weakly Bound Complex (H_2S, HCN) Determined from an Investigation of its Rotational Spectrum, 1669
Huggins Coefficient
The Huggins Coefficient as a Means for Characterizing Suspended Particles, 31
Hydration Force
On the Image-charge Model for the Hydration Force, 1323
Hydration Forces
The Role of Repulsive Hydration Forces on the Stability of Aqueous Black Films. Application to Vesicle Fusion, 517
Hydrides
Vibrational Self-relaxation of Group VI Hydrides. A Simple Theoretical Approach, 275

Hydrocarbons
Cooperative Motion in Some Simple Hydrocarbons, 1047
Hydrogen
Non-adiabatic Calculations upon the Hydrogen Molecular Ion Isotopically Substituted by Tritium, Deuterium and Muonium, 589
Solvent Shifts of the Proton Magnetic Resonance of Hydrogen, Benzene and Mesitylene, 1039
Hydrogen Bonds
Nuclear Magnetic Resonance Study of Molecular Dynamics in Guanidinium Salts containing Interionic Hydrogen Bonds, 553
Infrared Spectroscopic Studies of Hydrogen Bonding in Triethylammonium Salts. Part 3.—Strong Hydrogen Bonding, 899
Strongly Hydrogen-bonded Molecular Complexes Studied by Matrix-isolation Vibrational Spectroscopy. Part 1.—The Ammonia–Hydrogen Chloride Complex, 455
Strongly Hydrogen-bonded Molecular Complexes Studied by Matrix-isolation Vibrational Spectroscopy. Part 2.—Amine-Hydrogen Chloride Complexes, 465
Hydrogen Chloride
Microwave Rotational Spectrum of a Weakly Bound Complex Formed by Hydrogen Sulphide and Hydrogen Chloride, 51
Strongly Hydrogen-bonded Molecular Complexes Studied by Matrix-isolation Vibrational Spectroscopy. Part 1.—The Ammonia–Hydrogen Chloride Complex, 455
Strongly Hydrogen-bonded Molecular Complexes Studied by Matrix-isolation Vibrational Spectroscopy. Part 2.—Amine-Hydrogen Chloride Complexes, 465
Kinetic Studies of the Reactions of OH($X\ ^2\Pi$) with Hydrogen Chloride and Deuterium Chloride at Elevated Temperatures by Time-resolved Resonance Fluorescence ($A\ ^2\Sigma^+$–$X\ ^2\Pi$), 713
Hydrogen Peroxide
Chemiluminescence from Reactions of Bis(pentachlorophenyl)oxalate, Hydrogen Peroxide and Fluorescent Compounds. Kinetics and Mechanism, 823
Chemiluminescence from Reactions of Bis(pentachlorophenyl)oxalate, Hydrogen Peroxide and Fluorescent Compounds. Role of the Fluor and Nature of Chemielectronic Process(es), 837
Hydrogen Sulphide
Microwave Rotational Spectrum of a Weakly Bound Complex Formed by Hydrogen Sulphide and Hydrogen Chloride, 51
Hydroxy-group
Matrix Effects on Hydroxy-group Vibrational Frequencies caused by Weak Intermolecular Interactions, 579
3-(2′-Hydroxyphenyl)-5-methyl-1,2,4-oxadiazole
Excited-state Activity or the Bifunctional Molecules 3-(2′-Hydroxyphenyl)-5-methyl-Δ^2-1,2,4-oxadiazoline and 3-(2′-Hydroxyphenyl)-5-methyl-1,2,4-oxadiazole, 763
3-(2′-Hydroxyphenyl)-5-methyl-Δ^2-1,2,4-oxadiazoline
Excited-state Activity or the Bifunctional Molecules 3-(2′-Hydroxyphenyl)-5-methyl-Δ^2-1,2,4-oxadiazoline and 3-(2′-Hydroxyphenyl)-5-methyl-1,2,4-oxadiazole, 763
Ignition
Times to Ignition in Systems Initiated by Light, 601
Image-charge Model
On the Image-charge Model for the Hydration Force, 1323
INDO Study
Structure of the σ^* Radical Anion in Irradiated Iodoacetamide. An Electron Paramagnetic Resonance and INDO Study, 267
Infrared Spectroscopic Studies
Molecular Relaxation and Related Processes in Alcohols. Part 1.—Dielectric Dispersion and Infrared Studies of 3-Methyl-1,5-diphenyl-1,4-pentadiyn-3-ol, 403
Infrared Spectroscopic Studies of Hydrogen Bonding in Triethylammonium Salts. Part 3.—Strong Hydrogen Bonding, 899
Intermolecular Interactions
Matrix Effects on Hydroxy-group Vibrational Frequencies caused by Weak Intermolecular Interactions, 579
Intervalence Absorption
Temperature Variation of the Intervalence Absorption Band of Hexachloro-antimonate(III,V) Ions in a Crystal Lattice, 85
Iodine
Quenching of Electronically Excited Triplet States by Molecular Iodine in Benzene Solution, 1117
Kinetics of the Reaction of OH with I_2, 1633
Iodoacetamide
Structure of the σ^* Radical Anion in Irradiated Iodoacetamide. An Electron Paramagnetic Resonance and INDO Study, 267
Ion-exchange
Effect of Concentration Polarization upon the Valency-induced Counterion Selectivity of Ion-exchange Membranes, 335
Ion-exchange Equilibria in Zeolites and Clay Minerals. Different Concentration Scales and Derived Thermodynamic Functions, 629
Ionic Crystal
Electrostatic Potential above the (100) Surface Plane of a Face-centred Cubic Ionic Crystal with a Continuous Three-dimensional Electron Charge Density Distribution, 681

Ionisation Energies
Ionisation Energies of Two-electron Atoms, 1089
Isomers
Comparability Graphs and Molecular Properties. A Novel Approach to the Ordering of Isomers, 695
Ketene
Studies of Methylene Chemistry by Pulsed Laser-induced Decomposition of Ketene. Part 1.—Ketene in the Presence of Noble Gases, 561
Kinetic Studies
Kinetic Studies of the Reactions of OH($X\ ^2\Pi$) with Hydrogen Chloride and Deuterium Chloride at Elevated Temperatures by Time-resolved Resonance Fluorescence ($A\ ^2\Sigma^+$–$X\ ^2\Pi$), 713
Kinetic Study of Sr(5^3P_J) by Time-resolved Emission, $5\ ^3P_1 \rightarrow 5\ ^1S_0 + h\nu$ ($\lambda = 689.3$ nm), following Dye-laser Excitation, 321
A Direct Kinetic Study of the Reaction K + OH + He → KOH + He by Time-resolved Molecular Resonance-fluorescence Spectroscopy, OH ($A\ ^2\Sigma^+$–$X\ ^2\Pi$) Coupled with Steady Atomic-fluorescence Spectroscopy, K($5\ ^2P_J$–$4\ ^2S_{1/2}$), 1465
Kinetics of Polymorphic Solid-state Transformations, 659
Kinetics of the Reaction of OH with ClO, 957
Kinetics of the Reaction of OH with I_2, 1633
Knudsen-cell method
Determination of the Dissociation Energy of Selenium Monoxide by the Mass-spectrometric Knudsen-cell method, 1171
Knudsen-effusion Mass Spectroscopy
Dissociation Energy of Gaseous YPd by Knudsen-effusion Mass Spectroscopy, 395
Laser Excitation Spectra
Laser Excitation Spectra $\tilde{A}\ ^2\Pi_{3/2} \leftarrow \tilde{X}\ ^2\Pi_{3/2}$ of the Bromoacetylene and Deuterobromoacetylene Cations in the Gas Phase, 43
Laser Flash-photolysis Study
Photoreduction of Benzophenone by Amino Acids, Aminopolycarboxylic Acids and their Metal Complexes. A Laser Flash-photolysis Study, 1107
Laser-induced Decomposition
Studies of Methylene Chemistry by Pulsed Laser-induced Decomposition of Ketene. Part 1.—Ketene in the Presence of Noble Gases, 561
Light Scattering
Aggregation by Stacking of a Drug in Aqueous Solution Studied by means of Light Scattering and Ultrasonic Relaxation, 243
Molecular Orientation in Liquid Diphenyl Ether as Probed by Depolarized Light Scattering, 283
Light Scattering from Binary Mixtures of Dichloroethane, Acetonitrile,
Light Scattering (*cont.*)
Dimethylformamide and Ethyl Acetate. Excess Gibbs Functions, 1215
Light Scattering from a Coagulating Dispersion of Random Aggregates, 1485
Absorption Spectra of Molecules Adsorbed on Light-scattering Media. Part 1.—Absorption Cross-section of the Adsorbed Molecules, 1077
Lithium Benzophenone–Lithium Bromide Complex Formation
Equilibrium Constant for Lithium Benzophenone–Lithium Bromide Complex Formation, 345
Low-dimensional Materials
Anomalous Low-frequency Dispersion. Near Direct Current Conductivity in Disordered Low-dimensional Materials, 291
Low-frequency Dispersion
Anomalous Low-frequency Dispersion. Near Direct Current Conductivity in Disordered Low-dimensional Materials, 291
Luminescence
Influence of Surface Heterogeneity on the Luminescence Decay of Probe Molecules in Heterogeneous Systems. $Ru(bpy)_3^{2+}$ on Clays, 67
Luminescence and Vibrational Spectra of the Uranyl Compound $[(CH_3)_4N]_2UO_2F$, 219
Magnesium Orthosilicate
Photoelectron and X-ray Spectroscopy of Minerals. Part 1.—Electronic Structure of Forsterite (Magnesium Orthosilicate), 669
Magnesium Oxide
Theoretical Approach to the Basicity of Alkaline-earth-metal Oxide Catalysts. Relationship between Basicity and Surface Structure of Magnesium Oxide, 921
Magnetic Relaxation
Multinuclear Magnetic Relaxation Determination of Nuclear Quadrupole Coupling Constants for Adamantane and Hexamethylenetetramine in Solution, 1067
Manganese
Electron Spin Resonance Study of the Manganese(II) Chelate of Tetrasodium 3,10,17,24-Tetrasulphonatophthalocyanine, 425
Matrix Effects
Matrix Effects on Hydroxy-group Vibrational Frequencies caused by Weak Intermolecular Interactions, 579
Matrix-isolation Vibrational Spectroscopy
Strongly Hydrogen-bonded Molecular Complexes Studied by Matrix-isolation Vibrational Spectroscopy. Part 1.—The Ammonia–Hydrogen Chloride Complex, 455
Strongly Hydrogen-bonded Molecular Complexes Studied by Matrix-isolation Vibrational Spectroscopy. Part 2.—Amine–Hydrogen Chloride Complexes, 465

Mercury Drops
Electrokinetic Phenomena in a Dilute Suspension of Charged Mercury Drops, 1643
Merocyanine Dye
Solvatochroism of a Typical Merocyanine Dye. A Theoretical Investigation through the CNDO/SCI Method including Solvation, 1235
Merocyanines
Thermal and Photochemical Interconversion of Spiropyrans and Merocyanines. A Semi-empirical All-valence-electron Study, 1513
Mesitylene
Solvent Shifts of the Proton Magnetic Resonance of Hydrogen, Benzene and Mesitylene, 1039
Metal Clusters
Point-group Regular Representations and the Densities of States in Finite Metal Clusters, 1507
Metal Oxides
A Quantum-chemical Approach to the Generation of Solid Acidity in Composite Metal Oxides, 205
Metalloporphyrin
Photoredox Processes in Metalloporphyrin–Crown Ether Systems, 867
Methylamine
The Lowest Triplet State in Ammonia and Methylamine Detected by Electron-impact Excitation, 641
Methylcyclohexane
Thermodynamics of Methylcyclohexane + Toluene and Methylcyclohexane + Cyclohexane Mixtures from Isothermal Compressibility Data, 437
Methylene
Studies of Methylene Chemistry by Pulsed Laser-induced Decomposition of Ketene. Part 1.—Ketene in the Presence of Noble Gases, 561
Micelles
Shape Fluctuations of Spherical Micelles, 489
Microwave Rotational Spectrum
Microwave Rotational Spectrum of a Weakly Bound Complex Formed by Hydrogen Sulphide and Hydrogen Chloride, 51
Minerals
Photoelectron and X-ray Spectroscopy of Minerals. Part 1.—Electronic Structure of Forsterite (Magnesium Orthosilicate), 669
Molar Excess Quantities
Determination of Mean Molar and Molar Excess Quantities in Multicomponent Systems, 261
Molecular Dynamics
Nuclear Magnetic Resonance Study of Molecular Dynamics in Guanidinium Salts containing Interionic Hydrogen Bonds, 553
Thermal Conductivity and Bulk Viscosity of Simple Fluids. A Molecular-dynamics Study, 1363
Molecular Properties
Comparability Graphs and Molecular Properties. A Novel Approach to the Ordering of Isomers, 695
Molecular Relaxation
Molecular Relaxation and Related Processes in Alcohols. Part 1.—Dielectric Dispersion and Infrared Studies of 3-Methyl-1,5-diphenyl-1,4-pentadiyn-3-ol, 403
Molecular Resonance-fluorescence Spectroscopy
A Direct Kinetic Study of the Reaction K + OH + He → KOH + He by Time-resolved Molecular Resonance-fluorescence Spectroscopy, OH ($A\,^2\Sigma^+$–$X\,^2\Pi$) Coupled with Steady Atomic-fluorescence Spectroscopy, K($5\,^2P_J$–$4\,^2S_{1/2}$), 1465
Determination of the Absolute Third-order Rate Constant for the Reaction between Na + OH + He by Time-resolved Molecular Resonance-fluorescence Spectroscopy, OH($A\,^2\Sigma^+$–$X\,^2\Pi$), coupled with Steady Atomic Fluorescence Spectroscopy, Na($3\,^2P_J$–$3\,^2S_{1/2}$), 1619
Molecular-orbital Calculations
Photoisomerisation Mechanism and Conformational Equilibria of Styrylnaphthalenes. A Study Based on Photophysical Properties and Molecular-orbital Calculations, 1093
Multicomponent Systems
Determination of Mean Molar and Molar Excess Quantities in Multicomponent Systems, 261
Muonium
Non-adiabatic Calculations upon the Hydrogen Molecular Ion Isotopically Substituted by Tritium, Deuterium and Muonium, 589
Na
Determination of the Absolute Third-order Rate Constant for the Reaction between Na + OH + He by Time-resolved Molecular Resonance-fluorescence Spectroscopy, OH($A\,^2\Sigma^+$–$X\,^2\Pi$), coupled with Steady Atomic Fluorescence Spectroscopy, Na($3\,^2P_J$–$3\,^2S_{1/2}$), 1619
Neon
The Use of Scaled STO Basis Sets. SCF Calculations on the Ground States of Helium, Beryllium and Neon, 1413
NH_2
Orbitally Ordered Configuration-interaction Calculations on Small Radicals. NH_2 and BeH, 851
$NH_4^+ \cdot H_2O$
An *Ab Initio* Potential-energy Function for $NH_4^+ \cdot H_2O$ and its Use in the Study of Ionic Coordination in Solution, 887
Ni
Carbon Monoxide on Ni {111}. Adsorption Isotherms and Intermolecular Interactions, 771

2-Nitrobenzenesulphenyl Chloride
Molecular Structure of 2-Nitrobenzenesulphenyl Chloride. An Electron-diffraction Study, 1273
Nitromethane
Raman-band Contour Analysis in the Liquid Systems Nitromethane + Benzene and Nitromethane + Carbon Tetrachloride, 607
Noble Gases
Studies of Methylene Chemistry by Pulsed Laser-induced Decomposition of Ketene. Part 1.—Ketene in the Presence of Noble Gases, 561
Normal-coordinate Analyses
Normal-coordinate Analyses of some Uranyl Halide Complexes, 365
Nuclear Magnetic Resonance
Use of Intramolecular ^1H–^1H Nuclear Overhauser Measurements to Isolate Intramolecular and Intermolecular Contributions to ^1H Nuclear Magnetic Resonance Spin–Lattice Relaxation Times, 375
Nuclear Magnetic Resonance Study of Molecular Dynamics in Guanidinium Salts containing Interionic Hydrogen Bonds, 553
Nuclear Overhauser Measurements
Use of Intramolecular ^1H–^1H Nuclear Overhauser Measurements to Isolate Intramolecular and Intermolecular Contributions to ^1H Nuclear Magnetic Resonance Spin–Lattice Relaxation Times, 375
Nuclear Quadrupole Coupling
SCF-MS-$X\alpha$ Study of the Bonding and Nuclear Quadrupole Coupling in Trihalide Ions XY_2^- (X = I, Br or Cl; Y = I, Br, Cl or F) and Xenon Difluoride, 1125
Multinuclear Magnetic Relaxation Determination of Nuclear Quadrupole Coupling Constants for Adamantane and Hexamethylenetetramine in Solution, 1067
OCS
Kinetics of the Reactions of Atomic Chlorine with H_2S, HS and OCS, 877
OH
Kinetic Studies of the Reactions of OH($X\ ^2\Pi$) with Hydrogen Chloride and Deuterium Chloride at Elevated Temperatures by Time-resolved Resonance Fluorescence ($A\ ^2\Sigma^+$–$X\ ^2\Pi$), 713
Kinetics of the Reaction of OH with ClO, 957
Kinetics of the Reaction of OH with I_2, 1633
Osazones
Photochemistry and Photophysics of Osazones. Part 3.—Properties of D-*arabino*-Hexulose Phenylosazone in Excited Singlet and Triplet States, 411
Oxidation
A Pulse-radiolytic and Photochemical Study of the Oxidation of Water by Zinc Porphyrin π-Radical Cations, 1451
Oxygen
Aromatic Thioketone Triplets and their Quenching Behaviour towards Oxygen and Di-t-butylnitroxy Radical. A Laser Flash-photolysis Study, 783
Collisional Quenching of Singlet Molecular Oxygen, $O_2(a\ ^1\Delta_g)$ and $O_2(b\ ^1\Sigma_g^+)$, by Ammonia at High Temperatures, 817
X-Ray Photoelectron Spectroscopic Study of the Initial Oxidation of Uranium Metal in Oxygen + Water-vapour Mixtures, 991
Pair Correlation Functions
Pair Correlation Functions from the Linearized Poisson–Boltzmann Equation with Axial Symmetry in Aqueous 1–1 Electrolytes, 507
Phospha-alkynes
Comparative SCF Study of the Nature of the Carbon-Phosphorus Bond in Phospha-alkynes, RCD, and of the Boron–Sulphur Bond in Sulphidoborons, RBS, 1225
Photochemistry
Photochemistry and Photophysics of Osazones. Part 3.—Properties of D-*arabino*-Hexulose Phenylosazone in Excited Singlet and Triplet States, 411
A Pulse-radiolytic and Photochemical Study of the Oxidation of Water by Zinc Porphyrin π-Radical Cations, 1451
Photoelectrochemical Studies
Photoelectrochemical Studies of Thin Films of Several Tetraphenylporphyrins Deposited on Tin(IV) Oxide Electrodes, 1055
Photoelectron Spectroscopic Studies
Photoelectron and X-ray Spectroscopy of Minerals. Part 1.—Electronic Structure of Forsterite (Magnesium Orthosilicate), 669
Comparative He I and He II Photoelectron Spectroscopic Studies of the Benzoyl Halides, 1281
Photoisomerisation
Photoisomerisation Mechanism and Conformational Equilibria of Styrylnaphthalenes. A Study Based on Photophysical Properties and Molecular-orbital Calculations, 1093
Photophysics
Photochemistry and Photophysics of Osazones. Part 3.—Properties of D-*arabino*-Hexulose Phenylosazone in Excited Singlet and Triplet States, 411
Photoredox Processes
Photoredox Properties of Zinc Porphyrin–Viologen Complexes, 191
Photoredox Processes in Metalloporphyrin-Crown Ether Systems, 867
Photoreduction
Photoreduction of Benzophenone by Amino Acids, Aminopolycarboxylic Acids and their Metal Complexes. A Laser Flash-photolysis Study, 1107

Point-group Regular Representations
Point-group Regular Representations and the Densities of States in Finite Metal Clusters, 1507
Poisson–Boltzmann Equation
Pair Correlation Functions from the Linearized Poisson–Boltzmann Equation with Axial Symmetry in Aqueous 1–1 Electrolytes, 507
Poly(Alkyl Methacrylate) Polymers
Dielectric Studies of the β_1 and β_2 Processes of Poly(Alkyl Methacrylate) Polymers, 747
Polymer Solutions
Statistical Thermodynamics of Polymer Solutions, 1435
Potential-energy Function
An *Ab Initio* Potential-energy Function for $NH_4^+ \cdot H_2O$ and its Use in the Study of Ionic Coordination in Solution, 887
Potential-energy Surfaces
Topography of Potential-energy Surfaces. DIM (Diatomics-in-molecules) Surface for H + Cl_2, 729
Topography of Potential-energy Surfaces. DIM (Diatomics-in-molecules) Surface for F + HF and Cl + HCl, 739
Topography of Potential-energy Surfaces. DIM (Diatomics-in-molecules) Surface for F + F_2, 795
Topography of Potential-energy Surfaces. DIM (Diatomics-in-molecules) Surface for Cl + Cl_2, 809
Proteins
Eosin Y-Macromolecule Complexes. Part 2.—Interactions between Eosin Y and Polycations, a Cationic Surfactant and Proteins, 1201
Proton Affinity
Proton Affinity of Gaseous Ammonia, 1167
Proton Magnetic Resonance
Solvent Shifts of the Proton Magnetic Resonance of Hydrogen, Benzene and Mesitylene, 1039
Pulse-radiolytic
A Pulse-radiolytic and Photochemical Study of the Oxidation of Water by Zinc Porphyrin π-Radical Cations, 1451
Quantum Theory
Quantum Theory of Charge-transfer Processes, 355
Quenching
Quenching of Electronically Excited Triplet States by Molecular Iodine in Benzene Solution, 1117
Quenching Behaviour
Aromatic Thioketone Triplets and their Quenching Behaviour towards Oxygen and Di-t-butylnitroxy Radical. A Laser Flash-photolysis Study, 783
Raman
Raman-band Contour Analysis in the Liquid Systems Nitromethane + Benzene and Nitromethane + Carbon Tetrachloride, 607
Analysis of Raman Bandwidths and Bandshapes of Glasses through their Glass-transition Temperatures, 1395
Reaction Fields
Reaction Fields, van der Waals Forces and Related Nuclear Magnetic Resonance Chemical Shifts, 1
Reaction Mechanisms
Location of Transition States in Reaction Mechanisms , 227
Resonance Fluorescence
Kinetic Studies of the Reactions of OH($X\ ^2\Pi$) with Hydrogen Chloride and Deuterium Chloride at Elevated Temperatures by Time-resolved Resonance Fluorescence ($A\ ^2\Sigma^+$–$X\ ^2\Pi$), 713
Rod-medium Structures
Two-dimensional Mathematical Treatment of Small-angle Light Scattering from a System of Periodic Rod-medium Structures, 1599
Rotational Spectrum
Geometry of a Weakly Bound Complex (H_2S, HCN) Determined from an Investigation of its Rotational Spectrum, 1669
Rotationally Resolved Photofragment Alignment
Rotationally Resolved Photofragment Alignment and Dissociation Dynamics in H_2O and D_2O, 1489
Ru
Influence of Surface Heterogeneity on the Luminescence Decay of Probe Molecules in Heterogeneous Systems. $Ru(bpy)_3^{2+}$ on Clays, 67
Scaled STO Basis Sets
The Use of Scaled STO Basis Sets. SCF Calculations on the Ground States of Helium, Beryllium and Neon, 1413
SCF Calculations
The Use of Scaled STO Basis Sets. SCF Calculations on the Ground States of Helium, Beryllium and Neon, 1413
SCF Study
Comparative SCF Study of the Nature of the Carbon–Phosphorus Bond in Phospha-alkynes, RCD, and of the Boron–Sulphur Bond in Sulphidoborons, RBS, 1225
Second-order Electric Properties
Localized Second-order Electric Properties in Water, Ammonia and Benzene, 235
Selenium Monoxide
Determination of the Dissociation Energy of Selenium Monoxide by the Mass-spectrometric Knudsen-cell method, 1171
Self-diffusion
Brownian-dynamics Simulation of Concentrated Charge-stabilized Dispersions. Self-diffusion, 383
Semi-empirical All-valence-electron Study
Thermal and Photochemical Interconversion of Spiropyrans and Merocyanines. A Semi-

Semi-empirical All-valence-electron Study (*cont.*)
empirical All-valence-electron Study, 1513
SF
Elementary Reactions of the SF Radical. Part 1.—Rate Constants for the Reactions F+OCS→SF+CO and SF+SF→SF_2+S, 100
Silicon
Collisional Behaviour of Atomic Silicon in Specific Electronic States, Si($3\,^3P_J$, $3\,^1D_2$, $3\,^1S_0$), with Molecular Fluorine Studied by Time-resolved Atomic Resonance Absorption Spectroscopy, 615
Small Molecules
Combined Flash-photolysis and Gas-phase Electron-diffraction Studies of Small Molecules, 1145
Small-angle Light Scattering
Two-dimensional Mathematical Treatment of Small-angle Light Scattering from a System of Periodic Rod-medium Structures, 1599
Solid-state Transformations
Kinetics of Polymorphic Solid-state Transformations, 659
Solution
The Transfer of Atoms, Ions and Molecular Groups in Solution. Part 1.—Models and Limits, 141
The Transfer of Atoms, Ions and Molecular Groups in Solution. Part 2.—Tunnelling between Harmonic Wells, 157
Solvation
Solvation Forces in a Model Fluid Mixture of Ions and Dipoles, 181
Solvatochroism of a Typical Merocyanine Dye. A Theoretical Investigation through the CNDO/SCI Method including Solvation, 1235
Solvatochroism
Solvatochroism of a Typical Merocyanine Dye. A Theoretical Investigation through the CNDO/SCI Method including Solvation, 1235
Solvent Shifts
Solvent Shifts of the Proton Magnetic Resonance of Hydrogen, Benzene and Mesitylene, 1039
Spiropyrans
Thermal and Photochemical Interconversion of Spiropyrans and Merocyanines. A Semi-empirical All-valence-electron Study, 1513
Sr
Kinetic Study of Sr(5^3P_J) by Time-resolved Emission, $5\,^3P_1 \rightarrow 5\,^1S_0 + h\nu$ ($\lambda = 689.3$ nm), following Dye-laser Excitation, 321
Statistical Thermodynamics
Statistical Thermodynamics of Polymer Solutions, 1435
Steady Atomic Fluorescence Spectroscopy
Determination of the Absolute Third-order Rate Constant for the Reaction between Na+OH+He by Time-resolved Molecular Resonance-fluorescence Spectroscopy,
Steady Atomic Fluorescence Spectroscopy (*cont.*)
OH($A\,^2\Sigma^+$–$X\,^2\Pi$), coupled with Steady Atomic Fluorescence Spectroscopy, Na($3\,^2P_J$–$3\,^2S_{1/2}$), 1619
Strontium
Collisional Quenching of Electronically Excited Strontium Atoms, Sr($5\,^3P_J$), Studied by Time-resolved Emission at $\lambda = 689.3$ nm ($5\,^3P_1 \rightarrow 5\,^1S_0 + h\nu$) following Dye-laser Excitation, 647
Styrylnaphthalenes
Photoisomerisation Mechanism and Conformational Equilibria of Styrylnaphthalenes. A Study Based on Photophysical Properties and Molecular-orbital Calculations, 1093
Sulphidoborons
Comparative SCF Study of the Nature of the Carbon-Phosphorus Bond in Phospha-alkynes, RCD, and of the Boron–Sulphur Bond in Sulphidoborons, RBS, 1225
Surface
Electrostatic Potential above the (100) Surface Plane of a Face-centred Cubic Ionic Crystal with a Continuous Three-dimensional Electron Charge Density Distribution, 681
Surface Heterogeneity
Influence of Surface Heterogeneity on the Luminescence Decay of Probe Molecules in Heterogeneous Systems. $Ru(bpy)_3^{2+}$ on Clays, 67
Surfactant
Eosin Y-Macromolecule Complexes. Part 2.—Interactions between Eosin Y and Polycations, a Cationic Surfactant and Proteins, 1201
Suspended Particles
The Huggins Coefficient as a Means for Characterizing Suspended Particles, 31
9-t-Butylanthracene
Temperature and Viscosity of Effects on Fluorescence in 9-t-Butylanthracene, 941
Tetraphenylporphyrins
Photoelectrochemical Studies of Thin Films of Several Tetraphenylporphyrins Deposited on Tin(IV) Oxide Electrodes, 1055
Thermal Conductivity
Thermal Conductivity and Bulk Viscosity of Simple Fluids. A Molecular-dynamics Study, 1363
Thermal Explosion
Thermal Explosion of Dispersed Media. Criticality for Discrete Reactive Particles in an Inert Matrix, 973
Thermal Explosion of Dispersed Media. Criticality for Discrete Reactive Particles in a Reactive Matrix, 1555
Thermodynamics
Thermodynamics of Methylcyclohexane+Toluene and Methylcyclohexane+Cyclohexane Mixtures from Isothermal Compressibility Data, 437

Thin Films
Photoelectrochemical Studies of Thin Films of Several Tetraphenylporphyrins Deposited on Tin(IV) Oxide Electrodes, 1055
Thioketone
Aromatic Thioketone Triplets and their Quenching Behaviour towards Oxygen and Di-t-butylnitroxy Radical. A Laser Flash-photolysis Study, 783
Time-resolved Atomic Resonance Absorption
Collisional Behaviour of Atomic Silicon in Specific Electronic States, Si($3\,^3P_J$, $3\,^1D_2$, $3\,^1S_0$), with Molecular Fluorine Studied by Time-resolved Atomic Resonance Absorption Spectroscopy, 615
Time-resolved Emission
Collisional Quenching of Electronically Excited Strontium Atoms, Sr($5\,^3P_J$), Studied by Time-resolved Emission at $\lambda = 689.3$ nm ($5\,^3P_1 \rightarrow 5\,^1S_0 + h\nu$) following Dye-laser Excitation, 647
Tin(IV) Oxide Electrodes
Photoelectrochemical Studies of Thin Films of Several Tetraphenylporphyrins Deposited on Tin(IV) Oxide Electrodes, 1055
Toluene
Thermodynamics of Methylcyclohexane + Toluene and Methylcyclohexane + Cyclohexane Mixtures from Isothermal Compressibility Data, 437
Topography
Topography of Potential-energy Surfaces. DIM (Diatomics-in-molecules) Surface for H + Cl_2, 729
Topography of Potential-energy Surfaces. DIM (Diatomics-in-molecules) Surface for F + HF and Cl + HCl, 739
Trajectory Studies
Classical Trajectory Studies of the Reaction F + I_2. Part 2.—Reaction Energy Dependence and the Role of Migration, 985
Transfer
The Transfer of Atoms, Ions and Molecular Groups in Solution. Part 1.—Models and Limits, 141
Transition States
Location of Transition States in Reaction Mechanisms, 227
Triethylammonium Salts.
Infrared Spectroscopic Studies of Hydrogen Bonding in Triethylammonium Salts. Part 3.—Strong Hydrogen Bonding, 899
Trihalide Ions
SCF-MS-$X\alpha$ Study of the Bonding and Nuclear Quadrupole Coupling in Trihalide Ions XY_2^- (X = I, Br or Cl; Y = I, Br, Cl or F) and Xenon Difluoride, 1125
Triplet States
Quenching of Electronically Excited Triplet States by Molecular Iodine in Benzene Solution, 1117
Tritium
Non-adiabatic Calculations upon the Hydrogen Molecular Ion Isotopically Substituted by Tritium, Deuterium and Muonium, 589
Tunnelling
The Transfer of Atoms, Ions and Molecular Groups in Solution. Part 2.—Tunnelling between Harmonic Wells, 157
Two-electron Atoms
Ionisation Energies of Two-electron Atoms, 1089
Ultrasonic Relaxation
Aggregation by Stacking of a Drug in Aqueous Solution Studied by means of Light Scattering and Ultrasonic Relaxation, 243
Uranium
X-Ray Photoelectron Spectroscopic Study of the Initial Oxidation of Uranium Metal in Oxygen + Water-vapour Mixtures, 991
Uranyl Compounds
Luminescence and Vibrational Spectra of the Uranyl Compound $[(CH_3)_4N]_2UO_2F$, 219
Normal-coordinate Analyses of some Uranyl Halide Complexes, 365
Van der Waals Forces
Reaction Fields, van der Waals Forces and Related Nuclear Magnetic Resonance Chemical Shifts, 1
Van der Waals Interactions
Effect of Solvent and Temperature on OH Stretching Bands Produced by van der Waals Interactions, 1253
Ground-state Diatomic Potentials. Part 2.—Van der Waals Molecules, 1349
Vesicle Fusion
The Role of Repulsive Hydration Forces on the Stability of Aqueous Black Films. Application to Vesicle Fusion, 517
Vibrational Self-relaxation
Vibrational Self-relaxation of Group VI Hydrides. A Simple Theoretical Approach, 275
Vibrational Spectra
Luminescence and Vibrational Spectra of the Uranyl Compound $[(CH_3)_4N]_2UO_2F$, 219
Viscosity
Temperature and Viscosity of Effects on Fluorescence in 9-t-Butylanthracene, 941
Visible Absorption
Visible Absorption and Fluorescence Spectra of the Benzalacetophenone Ketyl Radical and its Radical Anion, 861
Water
A Pulse-radiolytic and Photochemical Study of the Oxidation of Water by Zinc Porphyrin π-Radical Cations, 1451
Localized Second-order Electric Properties in Water, Ammonia and Benzene, 235
Xenon Difluoride
SCF-MS-$X\alpha$ Study of the Bonding and Nuclear Quadrupole Coupling in Trihalide

Xenon Difluoride (*cont.*)
Ions XY_2^- (X = I, Br or Cl; Y = I, Br, Cl or F) and Xenon Difluoride, 1125
X-Ray Photoelectron Spectroscopic Study
Photoelectron and X-ray Spectroscopy of Minerals. Part 1.—Electronic Structure of Forsterite (Magnesium Orthosilicate), 669
X-Ray Photoelectron Spectroscopic Study of the Initial Oxidation of Uranium Metal in Oxygen + Water-vapour Mixtures, 991
YPd
Dissociation Energy of Gaseous YPd by Knudsen-effusion Mass Spectroscopy, 395
Zeolites
Ion-exchange Equilibria in Zeolites and Clay Minerals. Different Concentration Scales and Derived Thermodynamic Functions, 629
Zinc Porphyrin
Electron-transfer Reactions of a Photosensitized Water-soluble Zinc Porphyrin, 909
A Pulse-radiolytic and Photochemical Study of the Oxidation of Water by Zinc Porphyrin π-Radical Cations, 1451
Photoredox Properties of Zinc Porphyrin–Viologen Complexes, 191